Best Management Practices for Agricultural Chemicals

A Guide for Pesticide Secondary Containment

The primary purpose of a secondary containment facility is to contain pesticide and fertilizer products, rinsates, and washwaters to prevent them from being spilled or otherwise released into the environment. This reduces the chances of site contamination and the liability and expense of hazardous waste cleanup. One Environmental Protection Agency estimate puts the average cleanup cost at several *million* dollars per site. This does not even take into account legal fees and health effects to you, your workers and neighbors.

Effective use of secondary containment can also reduce the possibility for rinsates and washwaters becoming regulated hazardous wastes with their associated high costs of disposal. Rinsates, washwaters, and spills that are properly managed in a containment facility can often be used rather than disposed of. The costs of having regulated hazardous wastes go beyond those of disposal, but also include storage and record keeping. The disposal of one 55 gallon drum of pesticide contaminated wastewater currently costs between $200 and $500.

Best Management Practices

The following is a list of potential pollution sources and problems related to secondary containment facilities. Best Management Practices (BMPs) can help to control and decrease their negative effects on the environment. Best Management Practices include both managerial procedures and structural facilities to prevent or reduce pollution. Managerial procedures involve schedules of required and prohibited activities, maintenance procedures, and other operational actions. Structural facilities include the physical layout and construction of the work site plus the selection of products and materials used.

Your experience with your site will help you determine which pollution problems you may have and which BMPs are needed. Do not limit yourself to the suggested BMPs, but find local solutions by talking to others in similar situations.

Stormwater Run-on

Preventing stormwater from entering contaminated storage and work areas minimizes further contamination. Contaminated stormwater will ultimately require treatment or other approved method of disposal.

Best Management Practices to Minimize Run-on:

- ☑ Uncontaminated stormwater should be kept away from the work area using berms, pipes, dikes, culverts or other similar construction barriers.
- ☑ The work area should be covered with a roof with gutters to prevent precipitation from becoming contaminated by agricultural chemicals on the work surface. This is especially critical in high rainfall areas in western Washington where a normal precipitation rate of 48 inches per year will produce 300,000 gallons of water over an area of 100 by 100 feet.

Runoff of Wastewaters

Eliminate or reduce the generation of contaminated water by controlling spills. Any contaminated water must be prevented from moving off site to minimize the amount of environmental impact. Work area wastewaters should not be released into dry wells, infiltration basins, or any outlet.

Hazardous Waste and ReduceWaste *Toxics Reduction Program*

Publication # 94-189
printed on recycled paper

Best Management Practices to Minimize Run-off*

- ☑ All stormwater which falls on the work area should be contained for proper disposal. If the work area is cleaned using the decontamination procedures described below, then stormwater can be disposed as clean stormwater as outlined in *"Disposal of Uncontaminated Stormwater".*

- ☑ The work area should be lined with a relatively impermeable material such as concrete. The area should be constructed to contain and aid in the recovery of any spilled materials. This includes a curbed area which slopes to a collection point where accumulated liquids can be removed by a manually activated pump.

** More details and an explanation of these requirements can be found in Ecology's guidance: "Spill Reporting and Cleanup in Washington State" Publication #94-187.*

Disposal of Uncontaminated Stormwater:

- ☑ If you are uncertain whether stormwater is contaminated or uncontaminated, either use the conservative assumption that the water is contaminated, or have a laboratory analyze the water.

- ☑ *Uncontaminated* stormwater should be released in ways to not cause erosion or flooding. Contact your regional Department of Ecology office for their Stormwater Manual.

- ☑ *Uncontaminated* stormwater may be discharged to a lined evaporation pond.

Segregation of Materials

Note: Mixing of materials with incompatible uses can turn usable products into hazardous waste.

- ☑ Avoid mixing rinsates/washwaters which have incompatible uses. Segregate and store materials according to intended end uses. Do not mix materials which have labels indicating they cannot be applied legally to the same site. The use must be consistent with the label for ***each*** chemical in a mixture.

- ☑ Dedicate equipment to compatible spray activities to reduce cleaning needs.

- ☑ Catch basin liquids can be reused as makeup water for the next spray solution of a compatible pesticide or fertilizer. Incorporate enough storage tanks into the design of the secondary containment area to properly segregate materials by legal use. Label containers with the name of the pesticide and the date of storage.

- ☑ Mix only enough for immediate use to avoid leftover material.

- ☑ Sequence applications to reduce change-overs from one spray type to another.

- ☑ All liquid materials that accumulate during the agrichemical application season should be contained, temporarily stored and reused during the same application season.

Cleaning Procedures

Proper equipment and container cleaning procedures will eliminate cross product contaminations and reduce the amount of contaminated washwater created.

Cleaning Procedures for Equipment and Containment Areas:

(The entire sequence should be followed)

- ☑ Thoroughly clean the containment area between the use of different chemicals to reduce the chances of cross-contamination. The more washwater that can be reused, the less waste volume there will be to handle and dispose.

- ☑ Clean equipment exteriors at a mixing-loading/cleaning station in the containment area, unless this can be done in the field at the application site.

- ☑ The containment area and equipment should be triple rinsed with a high pressure, *low volume* washer. This helps reduce quantities of washwater to contend with later.

- ☑ If possible, use the washwater as makeup water for later applications and apply to a suitable target area.

- ☑ If the washwater or stormwater is too dirty to utilize as makeup for later tank-mixes, consider installing filters and an oil-water separator. The filtered washwater can also be reused as washwater. Otherwise it will have to be disposed of as contaminated wastewater (see next page).

Contaminated Wastewater Disposal

The disposal of contaminated wastewater is subject to complicated legal requirements. Not creating contaminated wastewater is the best option, but if this is unavoidable it can be disposed of as hazardous waste and in special cases to your local wastewater treatment facility.

Disposal of Wastewaters

- ☑ Wastewaters can not be discharged to infiltrate soil or released into any watercourse, storm sewer, field tile drain, infiltration basins, dry wells or sanitary sewer.
- ☑ Contaminated liquids can be contained in a holding tank and may be discharged to a wastewater treatment facility *with* a discharge permit or authorization letter from Ecology or your local treatment facility. The waste must be treatable and not prohibited, be described specifically, and named in the permit as authorized for discharge. Disposal as wastewater should be considered only as a last resort.
- ☑ If the wastewater is contaminated as a regulated hazardous waste, it must be disposed of at a permitted hazardous waste treatment, storage or disposal facility.
- ☑ The Department of Ecology's regional offices can help you determine if your wastewater is regulated and which disposal options may be most appropriate.

Educate Employees

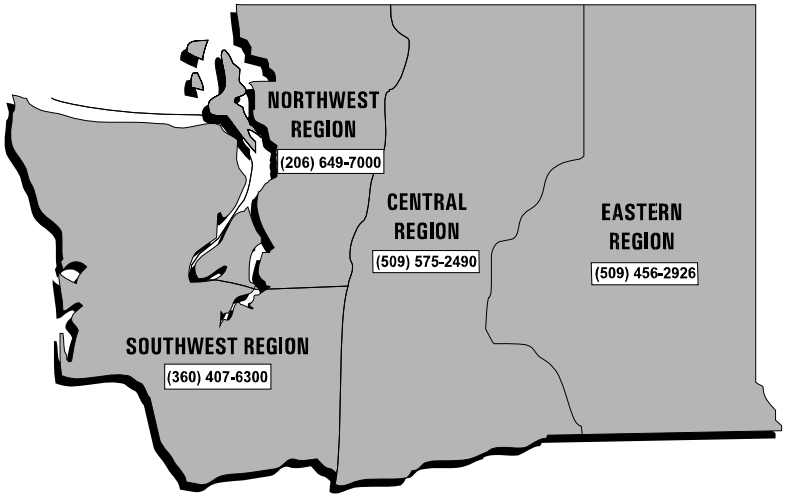
Employees need to know why and how they can keep pollutants from your facility and work sites out of the environment. Many of the above BMPs are operational and need to be followed on a continuing basis.

Educational Opportunities

- ♦ Attend related classes. Washington State University Cooperative Extension (WSU) conducts pesticide training each year. Industry trade groups also offer classes. Contact your local representatives for current training dates.
- ♦ Conduct environmental protection and waste reduction classes on an annual basis for all employees. Include environmental protection and waste reduction training in all new employee orientations and in procedure manuals.
- ♦ Request Department of Ecology or Department of Agriculture staff to speak at your local trade or association meetings.
- ♦ Work with and discuss your environmental protection procedures and waste reduction strategies with your peer businesses. Working together, industry can develop effective BMPs more quickly than businesses or government working alone.

Questions or More Information

If you are uncertain about disposal options for stormwater or uncontaminated wastewaters, call your nearest Ecology Regional Office and ask for a Water Quality Program specialist. For questions about your responsibilities as a hazardous waste generator, ask for a hazardous waste specialist. For information on reducing or recycling hazardous waste, ask for the Toxics Reduction staff. For further information or assistance, or to report spills in Washington State, contact the nearest Ecology regional office.



State Emergency Management Division 24-Hour Spill Number, 1-800-258-5990

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If you have special accommodation needs, contact Dave Dubreuil at (360) 407-6721 (Voice) or (360) 407-6006 (TDD).

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